

NOAA's National Weather Service



**Emergency Manager /
Media Workshop**

March 6, 2010

STORM DAMAGE ASSESSMENT SOFTWARE & GIS MAPPING

The August 19, 2009 Outbreak

Darrin Hansing
Service Hydrologist



NATIONAL WEATHER SERVICE — LINCOLN, IL

OUTLINE

- Storm survey goals
- Past storm survey methodology
- New methodology - PC survey tools
 - EF Toolkit
 - GIS-based Mobile Storm Damage Application
- Post production products for the web
- Demo of Google Storm Survey of August 19, 2009
- Future enhancements...?



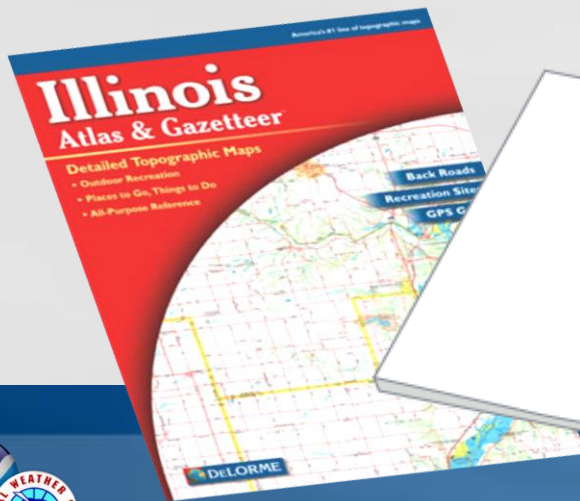
STORM SURVEYS

- When are storm surveys conducted?
 - When significant convective events cause extensive property damage, injuries, and/or fatalities
- Goals
 - Detailed mapping of the damage area with timing
 - Photographs
 - Talk with Emergency Management, eyewitnesses, etc.
 - Attempt to locate photos or video taken during the event



PAST STORM SURVEY METHODOLOGY

- Data collection by handwritten notes
 - Different techniques for recording the data
- Level of detail variable – limited
 - Tracing paths and information on road maps



PAST STORM SURVEY METHODOLOGY

- No common archive of recorded data
 - Time consuming to go back and view original survey data.
 - Typically not in electronic format.
- Slow or limited production of public products
 - Time consuming to produce maps or other graphical products



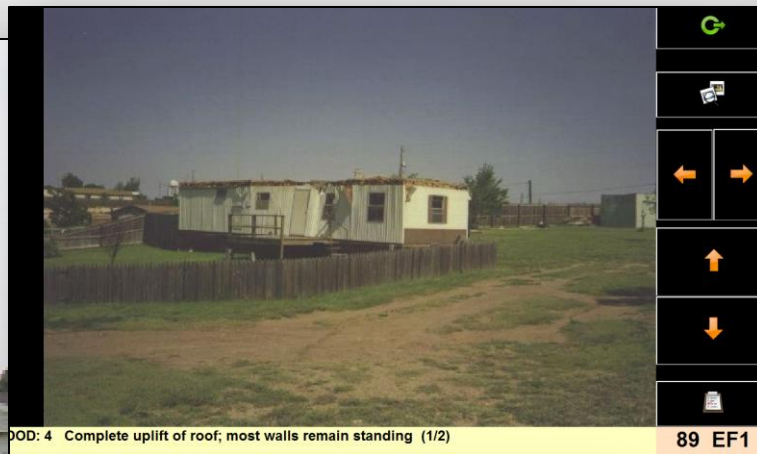
NEW METHODOLOGY : PC SURVEY TOOLS

EF Toolkit

- Visual reference for the 28 damage indicators
- Degree of damage information for each indicator



DI: 3 MHSW Manufactured Home - Single Wide



DOD: 4 Complete uplift of roof; most walls remain standing (1/2)

89 EF1

DOD = 4
Complete uplift of roof; most walls remain standing
Winds: 73 -- 89 -- 112
DI = 3
Manufactured Home - Single Wide
- Steel undercarriage supported on concrete block piers
- Metal straps and ground anchors (Frame and/or over-the-top strap anchors)
- Asphalt shingles or one-piece metal roof covering
- Wood roof joists
- Metal, vinyl or wood siding
- Wood stud walls and partitions
- Better construction in post 1974 models in coastal areas

DOD: 4 Complete uplift of roof; most walls remain standing (1/2)

89 EF1

NEW METHODOLOGY : PC SURVEY TOOLS

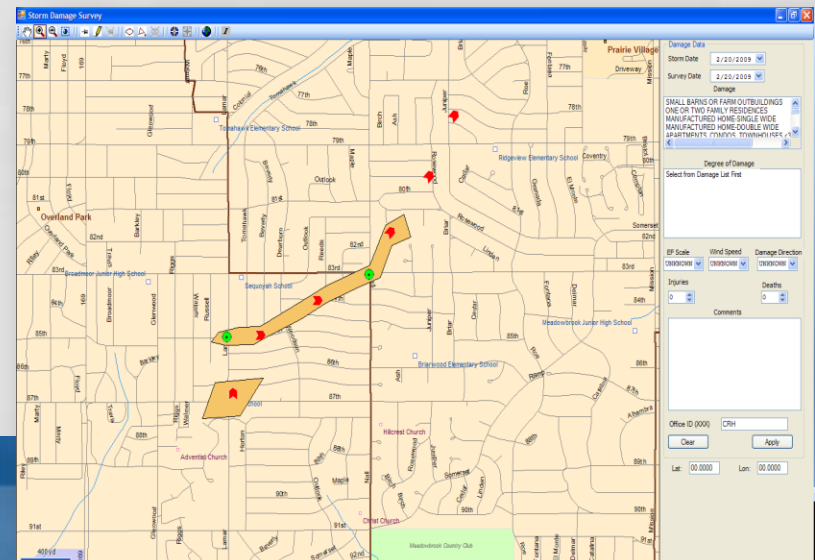
• Mobile Storm Damage Application

- Makes data collection and product development almost seamless
- Provides consistency in data collection
- Enhanced quality assurance of data during collection
- Ability to share common database with surrounding NWS forecast offices



NEW METHODOLOGY : PC SURVEY TOOLS

- Mobile Storm Damage Application
 - GUI consists of a GIS base map and menu interface
 - GPS-connectivity



OLD METHOD

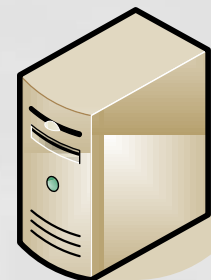


NEW METHOD



POST PRODUCTION FOR THE WEB

- Upon returning to the office we upload the data to an internal GIS server
 - From here we can:
 - Review / edit / quality control the data
 - Add new damage points
 - Incorporate new information from Emergency Management and the Media sources
 - Produce basic static map images for display on our website
- However, we have gone further...



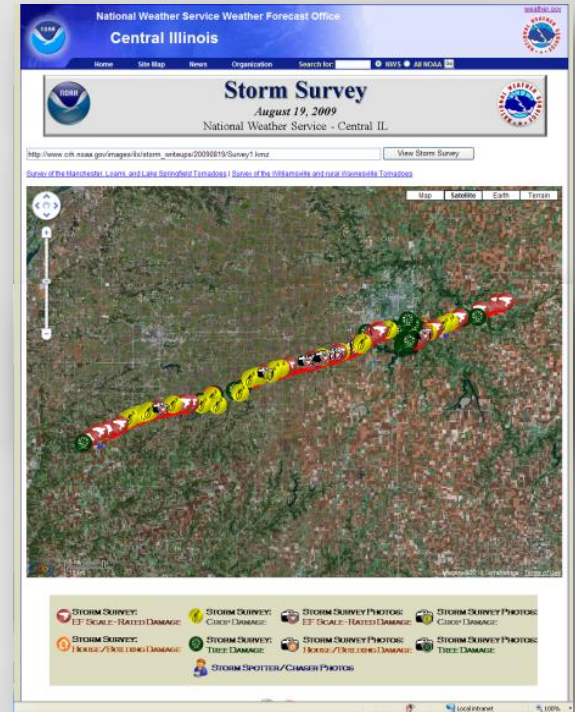
GOOGLE STORM SURVEY DISPLAY

- Partners and customers want...
 - More information
 - Greater detail in the data
 - A means by which you can interact with the info.
 - Useable formats for use with your own applications



GOOGLE STORM SURVEY DISPLAY

- In response, we have developed Google Maps interface that allows you better interact with storm survey data.



http://www.crh.noaa.gov/ilx/?n=google_storm_survey_8/19/09

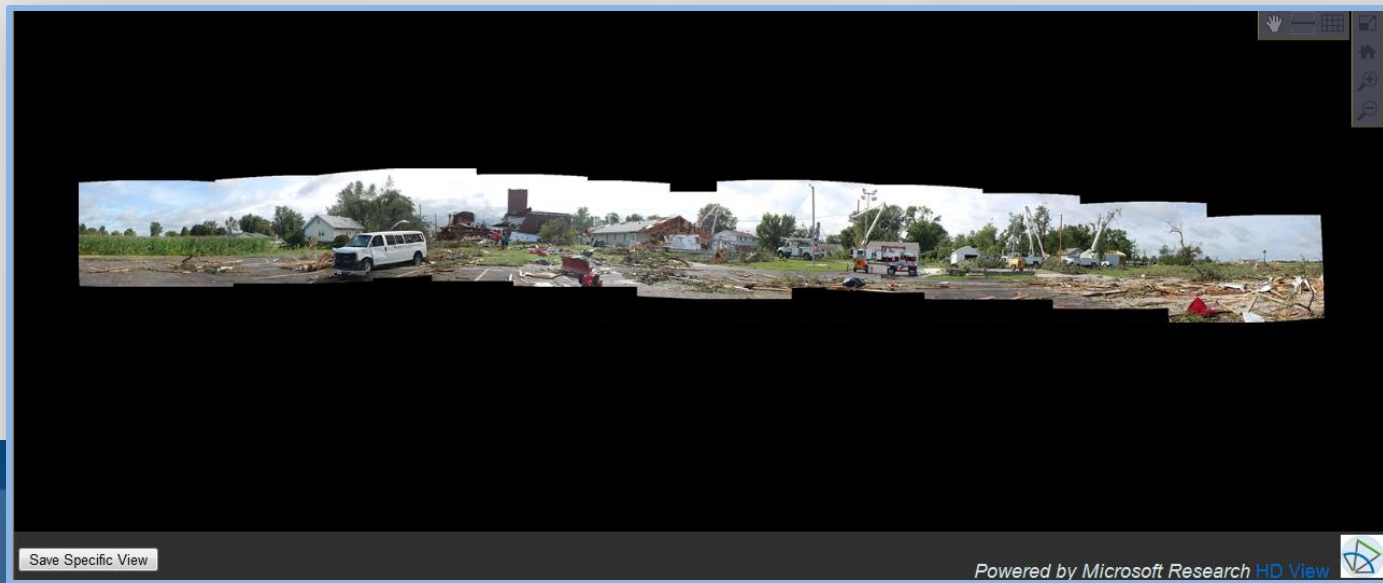
ON TO THE DEMO...



http://www.crh.noaa.gov/ilx/?n=google_storm_survey_8/19/09

FUTURE CAPABILITIES...?

- Embedded video
- Flash-based storm track “tours”
- Storm Report and Radar overlays
- Virtual panoramas embedded in Google (like “street view”) or links opened in a web browser



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Questions?



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